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REMARKS/ARGUMENTS

Amendments

Before this Amendment, claims 1, 2, 4-18, 20-27 and 29-35 were present for examination. Claims 1, 4, 11, 17, 18, 21, 22, 25, and 29 are amended. No claims are presently canceled; and new claim 59 is added. Therefore, claims 1, 2, 4-18, 20-27, 29-35, and 59 are present for examination, and claims 1, 17, 18, 21, 22, 25, and 29 are the independent claims.

The Office Action rejected claims 18, 20, and 22-27 under 35 U.S.C. §103(a) as unpatentable over the cited portions of U.S. Patent 6,226,744 to Murphy et al. ("Murphy") in view of the cited portions of U.S. Patent 6,304,223 to Hilton et al. ("Hilton") and further in view of the cited portions of U.S. Patent 5,745,571 to Zuk ("Zuk"). The Office Action rejected claims 1, 2, 4-17, and 29-35 under 35 U.S.C. §103(a) as unpatentable over the cited portions of U.S. Patent 6,101,477 to Hohle et al. ("Hohle") in view of Zuk and further in view of Hilton. The Office Action rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Hohle in view of Murphy and further in view of Hilton.

The claims are amended to recite certain embodiments of the invention more particularly. No new matter is added by these amendments, and support for the amendments may be found in the Specification (Original Application, p. 9, ll. 5-10; p. 10, ll. 4-16). Applicants respectfully request reconsideration of this application as amended.

35 U.S.C. §103(a) Rejection, Hohle, Zuk, Hilton

The Office Action rejected independent claims 1, 17, and 29 under 35 U.S.C. §103(a) as unpatentable over Hohle in view of Zuk and further in view of Hilton. To establish a *prima facie* case of obviousness, the prior art references must "teach or suggest all the claim limitations." MPEP §2143. These cited references cannot be relied upon to teach or suggest the limitations of independent claims 1, 17 or 29.

Specifically, the references fail to teach 1) secured data formatted to allow the central computer system to detect a modification to the secured data occurring during transmission beginning at the smart card and extending through to the central computer system,

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as recited in claims 1, 17 or 29, or 2) a second set of secured data, the second set formatted to allow the smart card to detect a modification to the second set occurring during transmission beginning at the central computer system and extending to the smart card, as recited in claim 17.

Various embodiments of the present invention comprise systems or methods for establishing a secure communication link between a smart card and a central computer system. There are, in certain claimed embodiments, one or more of the following intermediate components between the smart card and the central computer system: a smart card communication device, a local processor (e.g., a personal computers), or one or more communication networks. Therefore, in a number of embodiments the smart card is located remotely from the central computer system.

Claims 1, 17, and 29 describe the secure data exchanged between the central computer system and the smart card. The secure data is formatted to allow the central computer system to detect a modification to the secured data occurring during transmission, beginning at the smart card and extending through to the central computer system. This particular form of end to end data integrity is not taught or suggested by the references. Claim 17 further sets forth an embodiment wherein, for transmission in the opposite direction, a smart card may detect a modification to the secured data beginning at the central computer and extending through to the smart card.

The Office Action relies on Hohle to teach certain encryption and authentication for a smartcard system (Office Action, p. 5, ll. 1-12, *citing* Hohle, col. 11, l. 63 - col. 12, l. 36, col. 21, l. 43 - col. 22, l. 36). While Hohle may describe user "authentication" and data "encryption," there is no teaching or suggestion of the claimed end to end form of data integrity beginning at the smart card and extending through to the central computer system. There is simply no teaching in Hohle describing the functionality of the system to "detect a modification to the secured data" throughout the transmission in the manner set forth in the claimed embodiments.

The Office Action further relies on Zuk to disclose "encrypting secret data" (Office Action, p. 5, ll. 14-16, *citing* Zuk, col. 5, ll. 62-67). But Zuk sets forth systems and

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methods directed at data encryption for a smart card system (i.e. sending and receiving sensitive data), and similarly does not suggest a system wherein a modification to the secured data may be detected beginning at the smart card and extending through to the central computer system. Hilton clearly falls short, as well.

35 U.S.C. §103(a) Rejection, Murphy, Hilton, Zuk

The Office Action rejected independent claims 18, 22, and 25 under 35 U.S.C. §103(a) as being unpatentable over Murphy in view of Hilton and further in view of Zuk. As noted above, for a valid obviousness rejection, the prior art references must teach or suggest all the claim limitations. MPEP §2143. These cited references cannot be relied upon to teach or suggest the limitations of independent claims 18, 22, and 25.

Specifically, the references fails to teach 1) secure data formatted at the smart card to allow the central computer system to detect a modification to the secured data occurring during transmission beginning at the smart card and extending through to the central computer system, as recited in claim 22, or 2) secure data formatted at the central computer system to allow the smart card to detect a modification to the secure data occurring during transmission beginning at the central computer system and extending to the smart card, as recited in claims 18 and 25.

The Office Action relies on Murphy to suggest a security function (Office Action, p. 3, ll. 4-11 *citing* Murphy, col. 6, ll. 32-49 and 56-63). But Murphy describes a user authentication module employing a PIN, which is clearly different than the claimed embodiments. Moreover, neither Hilton or Zuk teach these limitations, for the reasons discussed above.

35 U.S.C. §103(a) Rejection, Hohle, Murphy, Hilton

The Office Action rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Hohle in view of Murphy and further in view of Hilton. Claim 21 recites secure data formatted to allow the central computer system to detect a modification to the secured data occurring during transmission, beginning at the smart card and extending to the

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central computer system. For the reasons set forth above, neither Hohle, Murphy, or Hilton teach or suggest this limitation.

35 U.S.C. §103(a) Rejection: Combinations of Hohle, Murphy, Hilton, and Zuk

Moreover, there is no suggestion in the references to modify the teachings of either Hohle or Zuk to include the additional references. The requisite motivation to modify either Hohle and Murphy is lacking, as is motivation for the specific combination of elements. The following excerpt is believed apt in the present case:

> "In the instant application, the examiner has done little more than cite references to show that one or more elements or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant ... has presented claims to a new combination of elements." Ex parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

The basic test for establishing obviousness requires that to "establish a *prima facie* case of obviousness . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings . . . . The teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in the applicant's disclosure." MPEP § 2143.

But the Office instead relies upon the contention that it would be obvious to modify Hohle or Murphy because there would be certain benefits with different combinations (Office Action, p. 3, ll. 20-22, p. 5, 18-20, p. 9, ll. 9-11). Alternatively, the Office relies upon the contention that it would be obvious to modify Hohle to include Hilton because "RF communication and inductive links are interchangeable. (Office Action, p. 6, ll. 9-11, p. 9, ll. 20-22).

But these factors do not constitute proper motivation - they addresses *the benefits* of such a system, or *interchangeability*, and not a suggestion to combine the teachings of the references. Unless the art itself "suggests the desirability of the combination," user benefits alone are clearly not enough. MPEP 2143.1.

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Because it is asserted that the cited references do not teach the limitations at issue, it is respectfully submitted that independent claims 1, 17, 18, 21, 22, 25, and 29 are allowable for at least the foregoing reasons. Claims 2, 4-16, 20, 23, 24, 26, 27, 30-35, and 59 each depend from the independent claims, and these claims are believed allowable for at least the same reasons as given above.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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